RICHARD T. ELY LECTURE

Does the Current Account Still Matter?[†]

By MAURICE OBSTFELD*

Are discrepancies between national exports and imports ever a legitimate cause for government concern or intervention? The question is as old as economic theory itself. Sixteenth-century English writers deplored the drainage of precious metals implied by deficits in foreign trade; as a result, the term "balance of trade" had entered into public discourse by the early seventeenth century.[1] David Hume's account in 1752 of the price-specie-flow mechanism, arguably the greatest set piece of classical monetary economics, vanquished for many years the mercantilist position that the perpetual accumulation of external wealth was both desirable and feasible. More than 250 years later, however, the foreign trade imbalances of national units—including even some that share common currencies—still figure prominently in debates over economic policy.

We should not be surprised. Even in an ideal world free of economic frictions, foreign demand and supply conditions are constraints on the maximal welfare attainable by the national unit. Its government therefore faces incentives to manipulate those constraints. In simple neoclassical theory all countries gain from free trade, including balanced trade, but in a real world permeated with economic and political distortions, a government's perceived short-run advantage may be enhanced by policies that enlarge the trade surplus. Such policies necessarily affect trading partners because a bigger surplus for one country requires correspondingly smaller ones for all the others. Of course, it is also quite common that government policies lead to larger deficits, and in theory, different distortions could result in absolute current-account imbalances that are too small, rather than too big, compared to an efficient benchmark.

Policies motivated by purely national advantage may well be collectively counterproductive if widely undertaken, which is why countries have sought to coordinate their trade and sometimes macroeconomic and financial policies. Economic frictions in goods markets and financial markets potentially increase the gains from policy cooperation, and they also can raise each country's vulnerability to a range of internal and external shocks, as well as the strength of spillover effects abroad. While profitable to the private parties involved, some transactions between sovereign jurisdictions may exacerbate systemic vulnerabilities, and therefore are legitimate targets for policymakers' attention.

The recent global crisis and its troubled sequel have brought these possibilities into sharp relief. Some but not all observers link the origin of the crisis to the rapid increase in economic globalization that preceded it, especially financial globalization. Nearly everyone, however, acknowledges that stronger financial and trade linkages helped propagate the crisis across borders.

Much contentious debate harks back to the debates of Hume's day by focusing on the current-account balance as a potential conduit for international shock transmission, or

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[1] See Price (1905). On the evolving interpretation of the phrase, and its relation to what we now call the current account, see Fetter (1935).
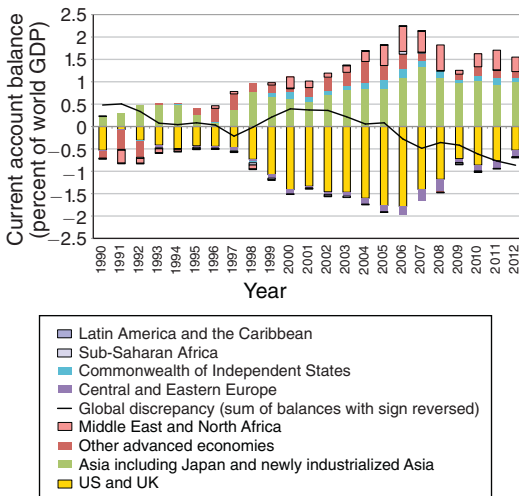
FIGURE 1. GLOBAL CURRENT ACCOUNT IMBALANCES

Notes: Figures for 2011 and 2012 are IMF staff forecasts. Newly industrialized Asia refers to Hong Kong, Republic of Korea, Singapore, and Taiwan.

Source: International Monetary Fund (IMF), *World Economic Outlook* Database, September 2011.

as a carrier of financial vulnerability. A country's current account is the difference between its saving and its domestic investment, or, equivalently, between its exports of goods and services (including income receipts on assets held abroad) and its imports.[2] The circumstantial evidence is that the crisis was preceded by historically large "global imbalances" in current accounts, including big deficits run by a number of industrial economies that subsequently came to grief (including the United States). Figure 1 shows how the dispersion of global current-account imbalances grew from the late 1990s through 2006, the year before the onset of the global crisis.

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[2] This formula corresponds to Meade's (1951, p. 7) definition of the "balance of trade." Strictly speaking, any balance of unrequited transfers is added to this trade balance to compute the current-account balance. The current account gets its name from its coverage of "current" as opposed to "capital" transactions. Its position today in US balance of payments statistics owes to the recommendations of the Review Committee for Balance of Payments Statistics (1965), a group that also stressed the linkage of the concept to the national income and product accounts, as noted by Cooper (1966).

But is concern about current-account imbalances still warranted in the twenty-first century? Policymakers certainly seem to think that it is. In 2006 the International Monetary Fund launched a multilateral consultative process that aimed to promote an orderly unwinding of large global imbalances. Similar issues have remained on the agenda of the Group of Twenty countries in the wake of the crisis. And in July 2010 the European Commission proposed an enhanced surveillance framework for EU members based on a broad range of indicators of potential macroeconomic imbalances, including current accounts.[3] The latter, unlike the public finances and inflation, figured nowhere in the Maastricht Treaty's macroeconomic criteria for entry into the single European currency.

What these high-level discussions seem to miss when they focus on current-account imbalances is the spectacular evolution and integration of international financial markets over the past quarter century. Global imbalances are financed by complex multilateral patterns of *gross* financial flows, flows that are typically much larger than the current-account gaps themselves. These financing patterns raise the question of whether the generally much smaller net current-account balance matters much any more, and, if so, when and how. They also draw attention to the implications for asset prices and financial stability of the much larger gross flows, which are intermediated through the financial markets of current-account deficit and surplus countries alike. Some economists suggest that the current account is much less important nowadays than policymakers' continuing attention to global imbalances would suggest.

Ironically, the two main lines of attack on the importance of the current-account balance both rely on the increasing fluidity and depth of global financial markets, but they take diametrically opposite views of those markets. To highlight the contrast, I state both arguments in their most extreme forms.

The first argument assumes that countries have extensively diversified their idiosyncratic risks in sophisticated, well-functioning markets for contingent securities. In this world of

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[3] See *European Economy News*, October 2010, available online at: http://ec.europa.eu/economy_finance/een/019/article_88106_en.htm.

virtually complete Arrow-Debreu asset markets, global financial trades allow countries to pool their risks to the maximum feasible extent. Except when current-account imbalances arise because of excessive government deficits, they represent optimizing household and firm decisions that support intertemporally efficient resource allocations and thus do not raise policy concerns.

The second argument against the continuing relevance of the current account is less optimistic (to say the least). It is based on the view that risk sharing is inherently imperfect and that high volumes of international financial activity often reflect skewed incentives and expectations, tax avoidance or evasion, regulatory arbitrage, implicit government guarantees, and other distortions. On this view, financial market imperfections can reinforce each other so as to magnify *systematic* risks, which themselves are endogenous to the financial system. This second argument maintains that the stability impact of current-account balances per se is small compared to that of the *gross* asset flows that ultimately finance international financial transactions. The bulk of these flows spread interconnected counterparty risks that become acute in a crisis. In any case, the impact of net current-account flows on a country's net external wealth are dwarfed by capital gains and losses on increasing gross foreign asset and liability positions.

This lecture presents the case that even in today's world of deep and globalized financial markets, the national current-account balance remains a policy-relevant variable on both financial and macroeconomic grounds. Nonetheless, I will also argue that while policymakers must continue to monitor global current accounts, such attention is far from sufficient to ensure global financial stability. In line with the second view of current accounts sketched above, large gross financial flows entail potential stability risks that may be only distantly related, if related at all, to the global configuration of saving-investment discrepancies. Adequate surveillance requires not only enhanced information on the nature, size, and direction of gross global financial trades, but better understanding of how those flows fit together with economic developments (including current-account balances) in the world's economies, both rich and poor.

Panel A. Financial account gross flows
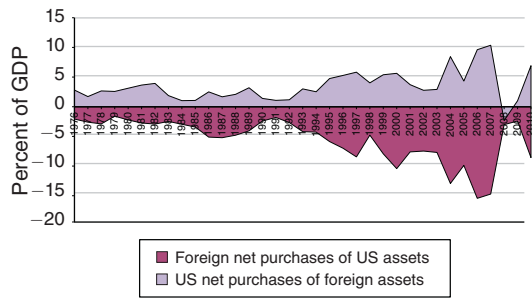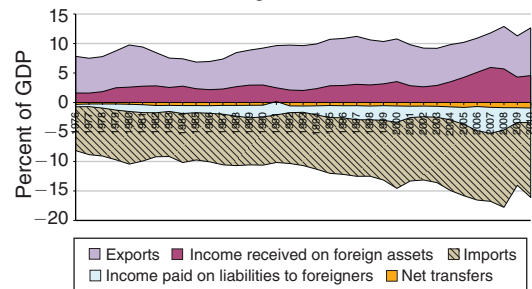
Panel B. Current account gross flows

FIGURE 2. UNITED STATES GROSS BALANCE OF PAYMENTS FLOWS, FINANCIAL AND CURRENT ACCOUNTS (*percent of GDP*)

Source: US Department of Commerce, Bureau of Economic Analysis.

I. International Flows, Stocks, and Budget Constraints

A basic fact about financial globalization since the early 1990s is that gross financial flows and gross stocks of foreign assets and liabilities have grown rapidly and for some countries, explosively. The evolution of gross flows is illustrated by the experience of the United States, which is a relatively closed economy compared to many others. The two panels of Figure 2 show the gross payments flows underlying the US current-account balance, as well as those that have financed it. Panel A shows US residents' net purchases of foreign assets and (with a negative sign) foreign residents' net purchases of US assets. The algebraic sum of the two series in panel A is the net increase in US foreign assets less the net increase in US foreign liabilities. It equals the US current-account balance (plus the usually small capital account balance) in principle but not in practice, because
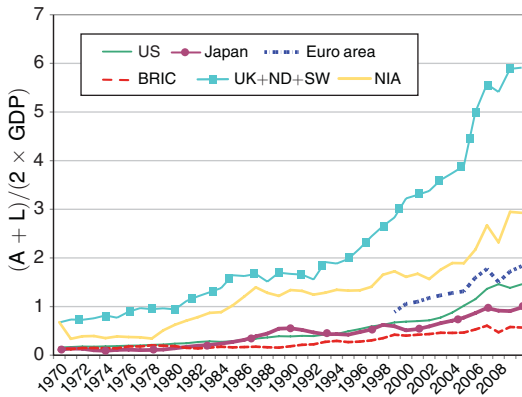
Figure 3. Average of Gross Foreign Assets (A) and Liabilities (L) as a Ratio to Gross Domestic Product

Notes: BRIC denotes Brazil, Russia, India, and China. NIA denotes Newly Industrialized Asia and consists of Hong Kong, Republic of Korea, Singapore, and Taiwan. UK + ND +SW consists of the United Kingdom, Switzerland, and the Netherlands.

Source: Updated Lane and Milesi-Ferretti (2007) data, provided by the authors.

of inevitable errors and omissions in the data.[4] Panel B of Figure 2 shows US exports and imports, together with gross investment income flows and net transfers. The algebraic sum of the five series shown in the lower panel yields the current-account balance.

In the mid-1970s, gross financial flows were much smaller than trade flows, but the former have grown over time and on average now are of comparable magnitude to trade flows. Of course, international flows of investment income have grown over time as gross foreign asset and liability positions have grown. Figure 3 illustrates the explosive growth of those stocks for a selection of countries and country groups, using the position data assembled by Lane and Milesi-Ferretti (2007), and extended by the authors through 2010. Let A denote the economy's gross foreign assets and L its gross foreign liabilities (both aggregates

encompassing the domestic public as well as private sectors). The data in Figure 3 represent the average of external assets and liabilities, divided by GDP, or $(A + L)/2GDP$; for country groups I show the GDP-weighted average.

The data indicate a rapid buildup in external positions, especially since the late 1990s, in the wealthier countries. On this measure, Japan's "financial openness" merely doubles compared with the late 1990s, while that of the United States triples, to about 1.5 times GDP. The euro zone's is higher still, whereas for the countries of Newly Industrialized Asia (Hong Kong, Korea, Singapore, Taiwan), average openness is now about three times GDP. Most striking are the very high numbers for rich European financial hubs such as the Netherlands, Switzerland, and the United Kingdom. For emerging markets (represented here by the BRIC countries), financial openness remains much lower, and its growth rate so far is more moderate.

What is the relation between the international flows of asset sales and purchases reported in balance of payments data and the stocks of foreign assets and liabilities? The conventions governing the National Income and Product Accounts (NIPA) dictate that the correspondence is imperfect, and increasingly so as financial globalization has proceeded. Let *CA* denote the current-account surplus, equal (apart from the generally insignificant capital account balance) to domestic residents' net purchases of foreign assets less foreign residents' net purchases of domestic assets (the level of net *financial flows* abroad). Let KG^A and KG^L be changes in the nominal market values of the pre-existing gross stocks of foreign assets and liabilities (capital gains terms due to exchange-rate and other asset-price movements). Then the overall change in the net international investment position or NIIP, defined as $A - L$, is equal to the current account plus net capital gains on the NIIP:

$$(1) \quad \dot{A} - \dot{L} = CA + KG^A - KG^L.$$

Notice that the net capital gain $KG^A - KG^L$ is part of income as commonly conceptualized by economists, but not as measured in the national accounts, just as other capital gains on wealth do not enter into the NIPA concepts of income or saving. Because the US external portfolio is long foreign currencies and short US dollars, long foreign equities and short US debt, weakness in the dollar or strength in world

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[4] The capital account is reserved for a relatively small class of items, such as debt forgiveness. That account also tracks the changes in net foreign assets that occur when international migrants change country of residence, bringing their portfolios with them. Such changes in regional net wealth are generally far greater and more frequent within than between countries, another reason why the net external assets and current accounts of subnational regions have less salience in policy analysis than those of countries.

Panel A. United States

Panel D. Germany

Panel B. United Kingdom

Panel E. Brazil
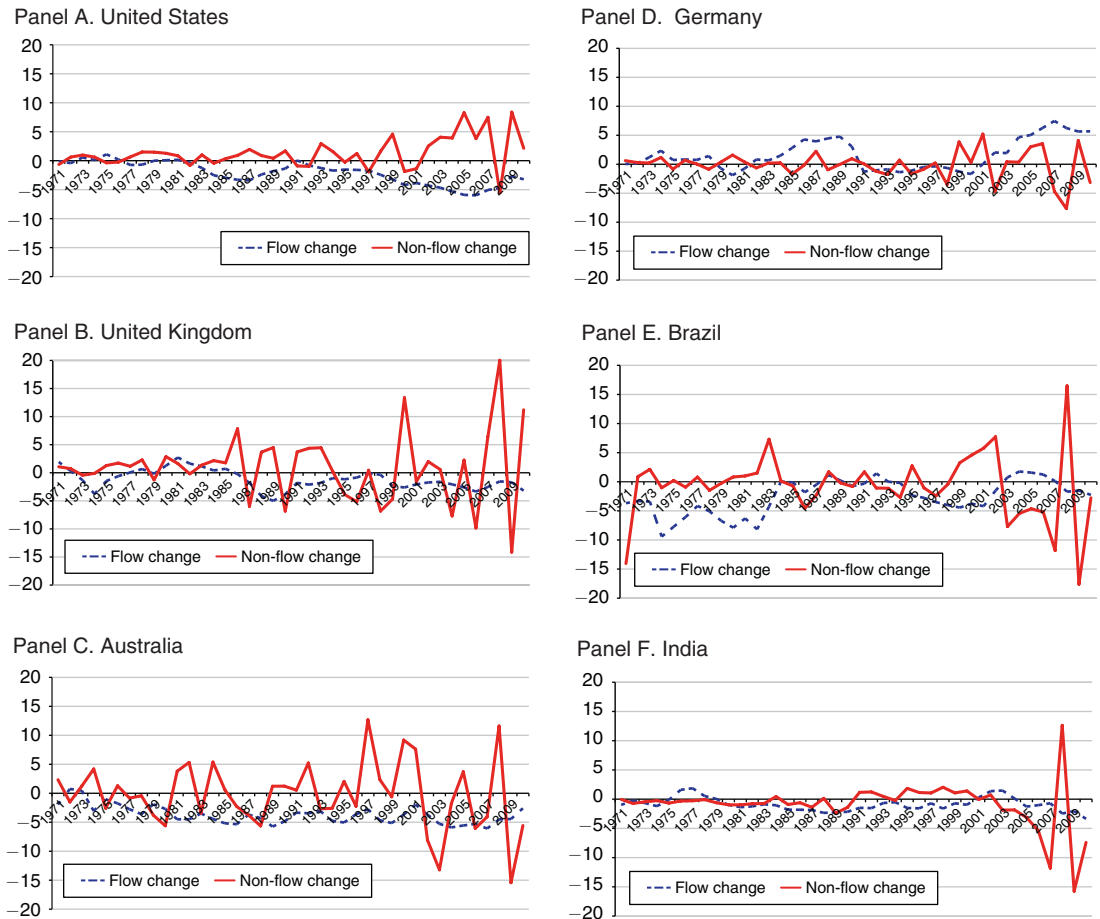
Panel C. Australia

Panel F. India

FIGURE 4. FLOW AND NON-FLOW CHANGES IN THE NET INTERNATIONAL INVESTMENT POSITION: SELECTED COUNTRIES
(*percent of GDP*)

Source: Updated Lane and Milesi-Ferretti (2007) data, provided by the authors.

equity markets tends to flatter the NIIP of the United States. But the wealth gains will not be recorded in the US national income accounts or current-account balance.

Alongside the expanding volume of financial flows shown in Figure 1, an expanding amplitude of valuation changes on external assets and liabilities has also driven the dynamics of those stocks. The panels of Figure 4 illustrate the trends since the early 1970s for six selected countries. The plots display both current-account balances (flow changes) and the changes in national NIIPs that are *not* attributable to current-account flows (both expressed as percentages of GDP).

The increasing volatility trend in the non-flow changes is exactly what one expects given the steadily expanding ratios to GDP of gross assets and liabilities, although time variation in the variance of asset-price shocks also plays a role.[5]

[5] For some earlier references on the role of valuation changes, see Obstfeld (2004). As is discussed further below, it is not in general correct to attribute the non-flow change in the NIIP entirely to asset-price movements that are not captured in national income statistics. The procedures generally followed by national statistical agencies do not always enforce consistency between the NIIP numbers (which can be subject to large periodic revisions) and

The key economic significance of the NIIP is that at any point in time, it limits the present value of a country's future net export deficits (not including international investment income). This national constraint, which governs a country's feasible transactions with foreigners, can be viewed as an implication derived from three more basic relationships.

The household budget constraint, written in domestic nominal terms, is

$$(2) \quad V(t) + D(t) + A(t) - L(t)$$
$$= E_t \left\{ \int_t^\infty \frac{\Omega(s)}{\Omega(t)} [\, C(s) + T(s) - W(s)] \, ds \right\},$$

where V denotes the nominal market value of the claims to capital resident in the home economy, D is the domestic government's net outstanding debt in nominal terms (accounting for foreign exchange reserve assets), $\Omega(s)/\Omega(t)$ is the stochastic discount factor for money, C is nominal consumption, T is nominal tax payments, and W is nominal wage income of resident workers.[6] The government's budget constraint is

$$(3) \quad D(t) = E_t \left\{ \int_t^\infty \frac{\Omega(s)}{\Omega(t)} [\, T(s) - G(s)] \, ds \right\},$$

where G is nominal government consumption. Finally, we have the following equilibrium relation between V and the present value of future profits $Y - W - I$ generated by domestic capital,

$$(4)$$
$$V(t) = E_t \left\{ \int_t^\infty \frac{\Omega(s)}{\Omega(t)} [\, Y(s) - W(s) - I(s)] \, ds \right\},$$

where Y is nominal GDP and I is nominal spending on investment.[7] Combining these three, we

conclude that the NIIP limits the present value of future net export deficits:

$$(5) \quad A(t) - L(t)$$
$$= E_t \left\{ \int_t^\infty \frac{\Omega(s)}{\Omega(t)} [\, C(s) + G(s) + I(s) - Y(s)] \, ds \right\},$$
$$= -E_t \left\{ \int_t^\infty \frac{\Omega(s)}{\Omega(t)} \, NX(s) \, ds \right\}.$$

Calculated at world prices, this derived national solvency constraint bites regardless of the exchange-rate regime. It covers the consolidated public and private sectors. For example, A comprises foreign exchange reserves that the government acquires through currency-market interventions, just as L includes domestic sovereign debt held by foreigners. The constraint shows what is needed for a current-account deficit to be sustainable. If deficits are driving the NIIP downward, then in the absence of windfall capital gains on national foreign positions, expenditure has to fall or output to rise in order that the private and public sectors both remain solvent. If sufficient adjustments in those directions are not politically or technologically feasible, then further borrowing is simply not sustainable, in the sense that it will ultimately lead to a solvency crisis somewhere in the economy.

The role of the NIIP as a limit on the present value of net export deficits also shows that its sign, positive or negative, determines how a general rise in global rates of return will impact domestic welfare. When $A - L > 0$, a rise in global rates of return generally makes room for larger future net export deficits. When $A - L < 0$, future net export surpluses generally must be increased when global rates of return rise in order to service the negative NIIP.

The reality of financial globalization requires care in interpreting the national implications of measured gross positions, however. Several economies host foreign headquartered financial institutions that have substantial balance sheets. Ireland is a leading example. But balance of payments data are based on a residence rather than a nationality principle, so potentially large fractions of gross external assets and liabilities (and the corresponding net positions) may belong to foreign nationals, and be only

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the current-account numbers, so some part of the non-flow change is likely to reflect measurement error.

[6] In this and the subsequent government budget constraint I ignore the role of money and seigniorage. Seigniorage can be significant—for example, the Federal Reserve's recent operating profits—but I leave it aside because it will enter the national intertemporal budget constraint (equation (5) below) only when foreign residents are willing to hold significant quantities of a country's cash. This is the case mostly for currencies that play a big role in underground transactions, notably the US dollar, which is dominant in global black markets as it is in the legitimate sphere.

[7] The fiscal theory of the price level interprets the government budget constraint, in analogy with the capital valuation equation, as an equilibrium condition.

tangentially relevant to domestic nationals' welfare. Furthermore, the national government may not find it necessary or desirable to intervene in support of resident institutions of foreign nationality that encounter financial problems. Nonetheless, in most cases the NIIP will still offer a reasonably good indicator of national consumption possibilities.

II. Arguments for Neglecting Current Account

The current account is one component of the overall change in the NIIP, and as such, its direction and absolute size imply changes in the economy's overall consumption and investment opportunities, other things equal. Furthermore, because an opposite balance elsewhere in the world economy must match a given country's balance, national current-account developments necessarily imply opposite adjustments abroad. Several lines of argument contend that current-account imbalances are essentially self-correcting à la Hume, or are of second-order policy importance compared to other aspects of international financial flows.

A. *Complete Markets*

In economic models with complete international asset markets, the scope for current-account imbalances is likely to be much reduced, while potential negative interactions between international asset flows and financial market imperfections are absent. In a canonical endowment economy with international borrowing and lending only, a country experiencing a temporary fall in output will borrow abroad to smooth its consumption, thereby running a temporary current-account deficit. But with complete markets the adjustment process is entirely different.

Consider, for example, the famous two-country endowment model of Lucas (1982). In that (ex ante symmetric) model, two countries swap exactly half the claims on their stochastic endowments, so that residents of both end up holding identical perfectly pooled portfolios. In that case, people share the consequences of any endowment shock, and since these shocks create no ex post wealth asymmetry between the countries, there is no ex post international asset trade either.

Complete market models with investment can result in current-account deficits or surpluses, but they are likely to be smaller than in the incomplete market case, sometimes much smaller. For example, Coeurdacier, Kollmann, and Martin (2010) analyze a model with equity claims and real consols, an asset structure sufficient to reproduce complete markets up to a first-order approximation in a model with two shocks, shocks to productivity and to investment efficiency. In that model (again up to a first-order approximation), optimal portfolio behavior implies a zero current account as bond flows always offset equity flows. Other complete-markets models with investment may, however, imply nonzero current accounts. For example, when new firms are born in a country, equity shares in them must be distributed to foreign investors via a net financial inflow, or current-account deficit.

Clearly such scenarios, with or without investment, provide no basis for efficiency-enhancing policy intervention. On the other hand, empirical support for the complete-markets hypothesis is, to put it charitably, weak.

B. *"Consenting Adults": The Lawson Doctrine and the Pitchford Thesis*

An alternative case for neglect holds that optimizing, forward-looking households and firms—of the type that Obstfeld and Rogoff (1996), for example, model—will generate current-account balances consistent with efficient resource allocation, provided the public-sector deficit is not excessive. Such imbalances can be expected to adjust toward moderate levels over time, and in an orderly fashion, as firms exhaust the most productive investment projects and as households shrink spending in line with declining wealth. This natural adjustment process echoes Hume's vision of inherently self-limiting trade imbalances, although it is more complex. In general, proponents of this vision focus on the possibility of excessive deficits, which are most likely to be at risk of abrupt reversal.

The argument that profit-maximizing firms and utility-maximizing households, unlike the government, are unlikely to over-borrow has been advanced in many cases of large current-account deficits. Chile in the early 1980s is a classic case in which a huge current-account deficit (peaking at 14.5 percent of GDP in 1981) was justified by Chilean officials as reflecting "exclusively the saving/investment

gap of the private sector" and "by definition self-adjusting…."[8] As famously chronicled by Díaz-Alejandro (1985), the episode ended in a devastating crash, with Chile's government massively socializing private-sector debts.

Despite this and similar experiences in the developing world, perhaps the best-known enunciation of the case for neglect was offered subsequently by British Chancellor of the Exchequer Nigel Lawson. At the 1988 annual meetings of the IMF and World Bank, as the UK current-account deficit was rising from below 1 percent of GDP in 1986 to just under 5 percent in 1989, Lawson asserted that an external deficit originating in private-sector behavior should be of no concern. This view became knows as the "Lawson Doctrine." [9] Around the same time a similar doctrine, knows as the Pitchford Thesis (after Pitchford 1989) or the "consenting adults" view of the current account, became influential in Australia, a country that has run oftentimes large deficits in every year since 1974 without encountering a serious crisis.[10]

One can appreciate the intellectual underpinnings of the Lawson Doctrine by reviewing equations (2)–(4) above and their relationship to equation (5), the national solvency constraint. For the purpose of this discussion I define P as the home price level and rewrite the government budget constraint (3) in real terms as

$$\frac{D(t)}{P(t)} = E_t \left\{ \int_t^\infty \frac{P(s)\Omega(s)}{P(t)\Omega(t)} \left[\tau(s) - g(s) \right] ds \right\}.$$

Suppose that the government is expected to follow policies consistent with market valuation of its debt at par, given the price-level path desired by the central bank. Suppose further that the aggregate of households is expected to respect equation (2), given that the value of their equity

assets is rationally assessed according to (4). Then the national intertemporal constraint (5) holds automatically. It is a derivative concept, however, because while equations (2)–(4) refer to basic economic units, equation (5) refers to the geographical unit within which those economic units reside. The Lawson Doctrine admits that the government may manage its affairs badly—the result being undesired inflation, a haircut on government debt, or both—but it does not recognize the private sector as a source of trouble. Thus, if the government finances are well managed, there is no further need to worry about *the country's* external deficits or debts.

A key problem with the Lawson argument is that the dividing line between public and private debts becomes hazy precisely in crisis situations. This problem, once thought to apply most starkly to developing countries, is now manifestly a major issue for rich countries as well. And when the government intervenes, it does so to achieve a *national* objective, and with *national* effects.

Government improvidence may adversely affect private-sector budget constraints, of course, as when domestic holders of government debt take losses. But, conversely, private sector difficulties may adversely affect the government's budget, as when the liabilities of failing banks receive public guarantees. (And of course, the expectation of such guarantees undermines the efficient functioning of markets.) Particularly in systemic crises, the budget constraints of the private and public sectors are inescapably intertwined, so that the national unit effectively does become an economic unit itself. In extreme cases, the government might even have to erect barriers between domestic and foreign financial markets. It is the possibility that such events *could* occur, and the resulting market expectations, that make national current-account deficits and external positions relevant. Again, one must add a caveat concerning economies that extensively host foreign-owned financial institutions. As noted above, their assets and liabilities may have little connection with domestic nationals and a foreign government may be their primary recourse for financial support in periods of financial stress.

Some claimed in the past that, thanks to the common currency issued by a system-wide central bank, national current accounts would no longer matter in the euro zone. But the

[8] Boughton (2001, p. 349n). Also see the discussion by Edwards (2002, p. 28).

[9] IMF (1988, pp. 78–85). Lord Lawson's current views are summarized in his inaugural Adam Smith Lecture, given at Pembroke College, Cambridge in November 2010; see Lawson (2011).

[10] An early advocate of the "consenting adults" view was W. Max Corden. For a discussion of the Australian debate over the significance of the external deficit, see Belkar, Cockerell, and Kent (2007), who also advance possible reasons for Australia's positive experience of dependence on foreign capital. A summary of Corden's more recent views is Corden (2007).

continuing fiscal and regulatory responsibilities of *national* euro zone governments to maintain *national* financial stability explain why member countries' individual external accounts remain a cause for concern. In particular, the absence of system-wide euro zone fiscal and regulatory authorities to oversee a highly integrated bond market has proved to be a huge liability, and has contributed to market segmentation in the crisis—even before the threat that some countries could depart the common currency. The contrast with the fiscal and regulatory arrangements in currency unions such as the United States—where sub-unit current-account data are not even collected—could not be starker.

Aside from these important considerations relating to the role of governments, any number of factors, not all government imposed, may distort the behavior of firms and households, leading to current-account deficits that are too large to be sustained. Suppose markets overestimate the value of equities. If foreigners largely hold these, it is they who will take the loss when the crash comes. In the case of home bias in equity holdings, however, the result is a fall in domestic wealth and consumption, including imports.

C. *The Case for Focusing on Gross Flows and Positions*

As I have noted, gross two-way financial flows now eclipse the net flows measured by the current account. Gross foreign asset and liability positions likewise have grown rapidly. But aren't these gross quantities the ones policymakers should worry about? A country with a gross short-term debt position may be vulnerable to a run, just as banks are. And even if the country as a whole holds a large net foreign asset stock, it does not follow that the particular agents with short-term foreign liabilities also hold enough liquid foreign assets to pay them off should lenders refuse to renew their credits. A focus on net positions does not recognize that my fellow citizens' assets are not available to pay off my debts—unless the government steps in, which generally happens only after a crisis has occurred. It is thus *gross* exposures that would seem to carry the risks of financial instability—of a *balance-sheet* crisis—regardless of whether the country has a current-account deficit or surplus, or is a net international creditor or debtor. Financial actors engage in maturity

and liquidity transformation within different currencies, regardless of their home lender of last resort, and this opens the door to financial fragility.[11] Furthermore, the portfolio shifts reflected in gross flows can have big effects on asset prices, even in the absence of current-account imbalances. Johnson (2009), Borio and Disyatat (2011), and Shin (forthcoming) present this view forcefully.[12]

Another implication of expanding gross asset and liability positions, noted above, is the increasing role of asset-price changes—the capital gains terms in equation (1)—in explaining the variance of the NIIP. If the NIIP can jump wildly because of valuation changes that swamp the current account's effect, why put so much emphasis on the current account? Let me expand on these arguments in turn.

For the rich industrial countries, much of the expansion of gross external asset and liability stocks has necessarily taken the form of debt instruments. There is considerable trade in equity too, as in the Lucas (1982) model, but the fact of home bias in equity ownership remains (although it is declining over time). Furthermore there is only so much real capital to underlie equity claims. The extreme ratios of external asset stocks to GDP that some countries display are not feasible except on the basis of extensive two-way trade in debt or debt-like instruments, including derivatives.

Figure 5 illustrates this fact for the United States' external assets and liabilities. The figure documents the well-known fact (see Gourinchas and Rey 2007a) that the United States, on balance, issues debt in order to hold equity. The prevalence of debt on the asset and liability sides is even more pronounced for the United Kingdom, as is shown in Figure 6. For the United Kingdom in 2010, debt assets amounted to about 3.5 times GDP and debt liabilities to about four times GDP.

The motivations for such huge two-way debt flows, many of which are international banking flows of short maturity, are only partially understood. There are several microeconomic rationales for a positive effect of debt contracts on incentives, and the availability of safe debt instruments is essential for market liquidity.

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[11] An early model of balance-sheet crises is Calvo (2000).

[12] In a world of complete asset markets, of course, gross asset flows are of no more concern than are net flows.
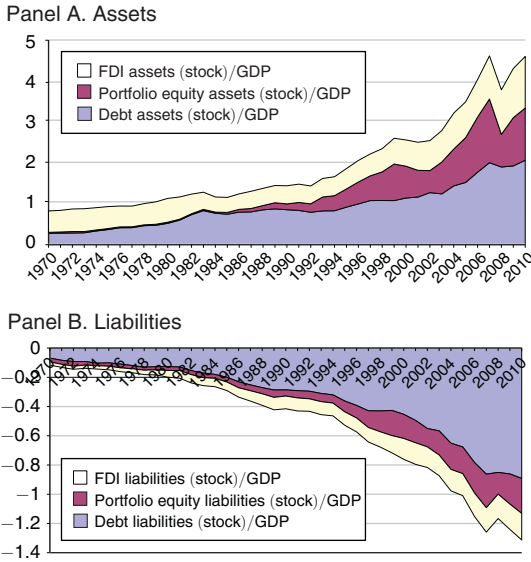
Panel A. Assets

Panel B. Liabilities

FIGURE 5. COMPOSITION OF US GROSS EXTERNAL ASSETS AND LIABILITES (*ratio to GDP*)

Source: Updated Lane and Milesi-Ferretti (2007) data, provided by the authors.
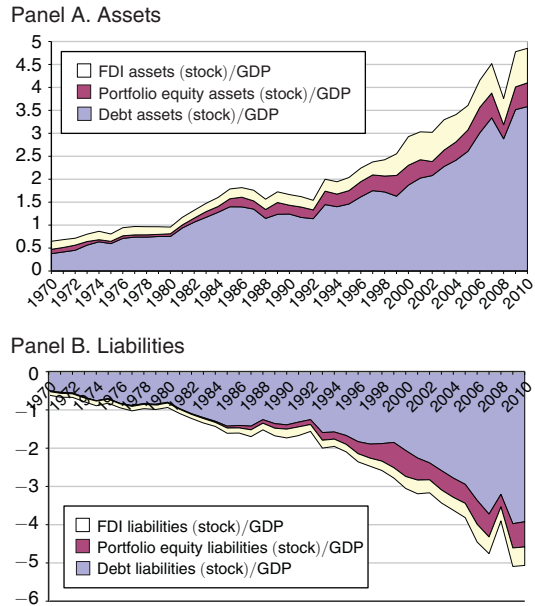
Panel A. Assets

Panel B. Liabilities

FIGURE 6. COMPOSITION OF UK GROSS EXTERNAL ASSETS AND LIABILITES (*ratio to GDP*)

Source: Updated Lane and Milesi-Ferretti (2007) data, provided by the authors.

But as Gourinchas (2011) emphasizes, while debt may sometimes enhance the efficiency of bilateral deals between individual agents, and even be essential to smooth market functioning, liquidity can evaporate quickly and upward spikes in counterparty risk are highly destabilizing at the systemic, macro level. Unfortunately, also, tax shifting and regulatory arbitrage are certainly important motivations for two-way debt transactions. The pyramiding of debt claims between counterparties often carries financial stability risks for the countries involved, regardless of their current-account positions. Short-term liabilities are subject to rollover risk, and liquidity problems easily can spread, threatening the solvency of a range of financial institutions. When the assets of one institution become impaired, those that have lent to it, or are suspected of having done so, can lose credit themselves. The resulting contagion can spread rapidly across national borders. Of course, this picture of globalized finance, while downplaying the importance of net financial flows, is very far from the one underlying the complete-markets or "consenting adults" views of the world!

The prevalence of debt or debt-like instruments in international finance is therefore potentially worrisome. Unlike equity, these instruments feature a predetermined contractual payment (perhaps contingent) that is subject to default. When many financial players are themselves leveraged, the phenomenon raises significant *systemic* dangers. For this reason, some developing countries such as India have actively discouraged debt inflows while permitting inflows of portfolio equity and FDI.

Johnson's (2009, pp. 13–14) summary makes the case well: "Current account data are too partial (because of netting in the statistics) to give useful information on the associated financial flows. The netting embedded in current account data can be misleading because the assets acquired by some domestic residents are not necessarily available to meet the liabilities of other domestic residents and because the composition of claims acquired on the rest of the world, and hence their risk characteristics, may be quite different from the composition of claims on the domestic economy acquired by foreign residents." For purposes of assessing vulnerability

to financial crisis, there is no substitute for information on the composition of each individual institution's gross assets and gross liabilities. Crises are crises precisely because of financial markets' inability to allocate liquidity where it is most needed, when it is most needed.

A prime example of how two-way financial flows helped lay the groundwork for the 2007–2009 global crisis comes from the large position in AAA-rated US asset-backed securities (ABS) taken by European banks, as documented by Johnson (2009); Bernanke et al. (2011); Borio and Disyatat (2011); Bertaut et al. (2011); and Shin (forthcoming), among others. To summarize broadly, many banks invested in ABS, in many cases through special purpose conduits, funding their acquisitions of these dollar assets with wholesale dollars often borrowed from US money-market funds. For the European banks, such transactions offered relatively high net returns as well as some relief from regulatory capital requirements.[13] For the money market funds, the transactions offered apparently high liquidity as well as favorable interest rates. The transactions were thus privately, if not always socially, profitable. Although extensive, this business received relatively little attention in policy circles compared with the flows of emerging markets' excess savings into US Treasury securities and agency obligations. But the flows from Europe played a key role in US credit growth, including housing finance. Banking inflows to the United States originated in current-account deficit countries (the United Kingdom) and surplus countries (Germany, Switzerland) alike. Data from the Bank for International Settlements on bank holdings by nationality show that by 2007, non-US banks (mostly European but also Japanese) held more than \$6 trillion in claims on the United States— compared to a total nominal US GDP of about \$14 trillion (Borio and Disyatat 2011).

A first observation is that the transactions just described simultaneously raise gross foreign debt assets and debt liabilities in both Europe and the United States. The US money-market fund acquires a gross claim on a European bank, which acquires an equal-valued ABS issued in the United States, a US gross liability. The mirror image shows up on the European external balance sheet.

A second observation is that these transactions, although believed to be virtually risk-free when undertaken in the frothy environment of the mid-2000s, actually involved dangerous liquidity and currency mismatches that were unexpectedly exposed starting in August 2007. At several points, European banks faced difficulty rolling over the short-term dollar credits that funded their holdings of suddenly toxic American ABS. For these banks, heavily reliant on wholesale funding, this amounted to a run on their dollar liabilities. Selling dollar assets to repay the loans would have forced the banks to book losses, while also contributing to fire-sale dynamics in US financial markets. On the other hand, borrowing euros (say) from the ECB and selling them for spot dollars would have left the banks dangerously long dollars and short euros. Foreign exchange swap markets, which normally would have been used to cover that risk, were simultaneously dysfunctional. Some non-US banks had access to Federal Reserve lending, and held eligible collateral, but many did not. The situation was stabilized thanks to the willingness of the Fed to provide dollars to the ECB, eventually in unlimited amounts.[14]

A third and last observation is that these tensions, like many others in financial markets in recent years, were felt by banks in current-account surplus and deficit countries alike simply because the banks' intrinsic vulnerability originated in the gross positions on their balance sheets.

Let me turn next to the second reason suggested above for de-emphasizing the current-account balance. This perspective admits the importance of the NIIP, but points to equation (1) and argues that the current account is an increasingly minor component of the overall change in the NIIP, which from year to year can easily offset the current account entirely.

Table 1 illustrates the increasingly loose relationship between current accounts and changes in the NIIP. The table uses the Lane and Milesi-Ferretti data to compute

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[13] Acharya and Schnabl (2009, 2010) discuss incentives for regulatory arbitrage.

[14] On the ad hoc central bank swap network initiated in December 2007, see, for example, McGuire and von Peter (2009) and Goldberg, Kennedy, and Miu (2011). Fed support was renewed and remains in place as a result of the European sovereign debt crisis.

TABLE 1—CORRELATIONS $\rho(\Delta NIIP/GDP, CA/GDP)$ BY PERIOD AND COUNTRY GROUP

Country group	1971–1990	1991–2010
High-income	0.61	0.26
Emerging	0.54	0.46
Developing	0.46	0.34

FIGURE 7. CUMULATED CURRENT ACCOUNT AND NET INTERNATIONAL INVESTMENT POSITION, UNITED STATES (*percent of GDP*)

Source: Updated Lane and Milesi-Ferretti (2007) data, provided by the authors.

the simple average correlation coefficients $\rho(\Delta NIIP/GDP, CA/GDP)$ over two periods, 1971–1990 and the later period of more intense financial globalization, 1991–2010.[15] For all country groups the correlation coefficient drops between the two periods, but the change is most striking, naturally, for the high-income countries, which have generated the largest gross foreign asset and liability positions.

In the case of the United States, the correlation coefficient drops from 0.83 before 1991 to only 0.13 afterward. Figure 7 plots both the cumulated current-account balance data and the measured NIIP for the United States, both relative to GDP (taking the 1970 NIIP as an initial benchmark for the cumulated current-account series). On face value, these data seem to indicate that, for a lengthy period after 2002, the United States was able to borrow historically large amounts without any deterioration in its NIIP.

Because capital gains and losses on net international positions result in such large wealth transfers between countries, it is natural to ask whether these play any positive risk sharing role. Gourinchas, Rey, and Govillot (2010) suggest that the United States may effectively provide global crisis insurance to the world, in return for a low foreign borrowing rate. The dollar has been a safe haven currency, appreciating in the face of negative global shocks. This fact and the fact of declines in world stock markets during crises result in outward wealth transfers from the United States during periods of global stress. The patterns of such transfers across countries deserve further study, as does the general question of the role of NIIP capital gains and losses in the global allocation of risk.[16]

III. So Why Worry about Current-Account Balances?

The arguments that current-account deficits are self-correcting, that huge cross-border financial flows promote efficient risk sharing, and that private-sector self-interest leads to socially efficient allocations absent government-imposed distortions all look increasingly implausible in light of recent experience.[17] Even if one rejects those doctrines, however, one might still argue that the current-account balance itself is of little significance, especially for the advanced economies that reside increasingly in an ocean of two-way financial flows and routinely experience large capital gains and losses on their gross international assets and liabilities.

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[15] Because of insufficient data availability, over the first subperiod the high-income sample is 20 countries, the emerging sample 56 countries, and the developing sample 81 countries. The respective sample sizes for the second subperiod are 21, 56, and 99. The correlations are relatively low for emerging and developing countries over the first subperiod due both to poor data and to episodes of external debt restructuring.
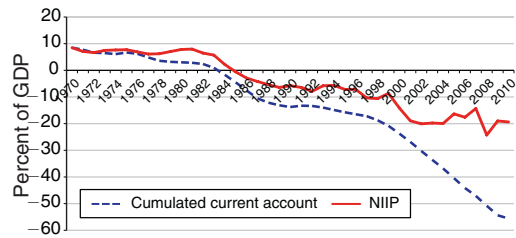
[16] Simple representative-agent models of efficient international risk sharing with plausible relative risk aversion imply that US consumption spending should rise relative to foreign consumption spending in states of nature where the dollar appreciates in real terms. In contrast, the structure of the US external portfolio dictates that (unexpected) dollar appreciation transfers wealth to foreigners from the United States; see Obstfeld (2007). That pattern is consistent with efficient aggregate risk sharing if, even after the international wealth transfer, US spending is high relative to foreign spending in states of the world where the dollar is relatively strong. But this pattern is not consistent with the data, as a large literature in international macroeconomics documents.

[17] Which is not to say that government-related distortions such as "too big to fail" guarantees are unimportant—just that they are not the exclusive source of inefficiencies.

So why continue to worry about the current account? To my mind, one can group the answers under three main categories: the current account as a symptom of related problems; the macro implications, both at home and abroad, of significant changes in current-account imbalances; and the likelihood that, over the long run, the cumulated current account actually does do a reasonable job of tracking the NIIP.[18]

Before proceeding, I have to emphasize that just as the "consenting adults" framework claims, some current-account imbalances, even very large ones, can be justified in terms of economic fundamentals and do not pose threats to either the national or international economy. Such imbalances need not be a symptom of economic distortions elsewhere in the economy, but instead reflect reasonably forward-looking decisions of households and firms, based on realistic expectations of the future. Not all fall into this category, however, and the facts of the case are typically amenable to different interpretations— witness the debate over the global imbalances of the mid-2000s, notably the US deficit, as summarized by Obstfeld and Rogoff (2010). It is *precisely* the uncertainty whether a given imbalance is benign that underlies policymakers' stance of continuing concern.

A. *Large Current-Account Imbalance as a Symptom*

Numerous crises have been preceded by large current-account deficits—Chile in 1981, Finland in 1991, Mexico in 1994, Thailand in 1997, the United States in 2007, Iceland in 2008, and Greece in 2010, to name just a few. But temporal priority does not establish causality, and the empirical literature of the last two decades has not established a robust predictive ability of the current account for subsequent financial crises (especially where the richer economies are concerned). There are cases in which even large current-account deficits have not led to crises, as noted above, and furthermore, several notable financial crises were not preceded by big deficits, including some of the banking crises in industrial countries during 2007–2009 (for example, Germany and Switzerland).

Frankel and Rose (1996), in a pioneering study, argued that large external deficits did not significantly raise the odds of a subsequent currency crisis in emerging markets, whereas Edwards (2002) argued that their result was somewhat sensitive to the definition of "crisis" and the region being studied. In a recent survey, Frankel and Saravelos (2010) conclude that the current account has some predictive power for currency crashes but less so than other indicators, such as international reserves and real exchange rates. Considering rich as well as poorer countries, Gourinchas and Obstfeld (2012) distinguish among currency, banking, and default crises and find that while larger current-account deficits often appear to precede past crises, the current account generally does not play a statistically significant role in helping to predict various types of crises. On the other hand, Catão and Milesi-Ferretti (2011) study a sample including advanced as well as developing economies over 1970–2010 and find that bigger current-account deficits and bigger net external debt liabilities both raise the likelihood of debt crises, defined to include large disbursements from multilateral support programs as well as external default. So the evidence is somewhat mixed.

A growing body of evidence, however, including the paper by Gourinchas and Obstfeld (2012) but also including Borio and Lowe (2002); Mendoza and Terrones (2008); Jordà, Schularick, and Taylor (2011); Schularick and Taylor (forthcoming); and many others, does indicate that rapid increases in domestic credit play an economically and statistically significant role in predicting subsequent crises. Gourinchas and Obstfeld attribute the relative resilience of many emerging markets in the 2007–2009 crisis in part to their avoidance of credit booms in the preceding years, and document that this was not the case in Central and Eastern Europe, where the effects of the crisis were especially harsh.

The ability to borrow abroad generally will allow a country to borrow at lower interest rates, and with less pressure on the exchange rate and therefore on inflation, than if it was financially closed. So it is natural to suspect some systematic relationship among current-account deficits, domestic credit growth, and financial crises. In reality the relationship seems to be complex. As Hume and Sentance (2009) point out, several large emerging markets have experienced credit booms without net inflows of capital.

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[18] For a complementary discussion, see Blanchard and Milesi-Ferretti (2011).

Japan's epic boom-bust cycle starting in the late 1980s occurred despite a current-account surplus (although the surplus did decline during the country's bubble period).

Despite such counterexamples, there is evidence (stronger for emerging countries) that net inflows of private capital may help generate credit booms and, in the presence of potentially fragile financial systems, thereby raise the probability of a crash. For example, Ostry et al. (2011, p. 21) study panel data for an emerging-market sample over 1995–2008, and (based on specific definitions of credit booms and crises, of course) they conclude, "one-half of credit booms are associated with a capital inflow surge, and of those that ended in a crisis, about 60 percent are associated with an inflow surge." Mendoza and Terrones (2008) find that most emerging-market crises involve domestic credit booms and that elevated financial inflows often precede credit booms. An IMF study of 19 advanced and 28 emerging market economies over the years 1960–2010 concludes similarly that financial inflows help predict credit booms (IMF 2011, pp. 47–50).

Studies such as these do not *directly* address the link between credit booms and the current account because the net inflow of private capital and the current-account deficit need not coincide: even a country with a current-account surplus may experience a net inflow of private capital if it is accumulating a sufficient volume of foreign exchange reserves. Jordà, Schularick, and Taylor (2011, p. 372) examine the question more directly, utilizing 14 decades of data for a sample of advanced countries, and conclude that "The current account deteriorates in the run-up to normal crises, but the evidence is inconclusive in global crises, possibly because both surplus and deficit countries get embroiled in the crisis." Reinhart and Reinhart (2009) study a broad sample of emerging and advanced economies, differentiating among different types of financial crisis. They argue that large current-account deficits make emerging-market economies more crisis-prone, while the evidence for advanced economies is mixed. The general question merits further research.

Obstfeld and Rogoff (2010) argue that for the United States, the big current-account deficit of the mid-2000s was not a cause of the crisis, but instead an endogenous response to domestic and external factors, including credit and housing booms, that indeed were unsustainable and

that ended in tears.[19] Indeed, a global credit boom occurred in the years preceding the crisis, and it cannot be directly attributed to external developments such as higher saving by Asian emerging markets and oil producers. As Hume and Sentance (2009) observe, the net inflow of capital from emerging to advanced economies is quantitatively far less than the amount of domestic credit those economies generated in the run-up to the global crisis. Empirically, bigger housing booms were associated with bigger current-account deficits. And where current-account deficits were large, they generally were a symptom of brewing financial instability.

External deficits may not be the true source of a problem—nor is the problem necessarily addressed most effectively by seeking directly to reduce the external deficit—but it is nonetheless prudent to be vigilant. Looking at the current predicament of the euro zone, it is easy to argue (unfortunately, with hindsight), that its members' external imbalances after 1999 were symptomatic of unsustainable trends—Greece's government deficit, housing and construction booms in Spain and Ireland, and excessive private borrowing in Portugal, with finance provided in large measure by European banks (including banks in surplus countries) that now find themselves in trouble. A cautious interpretation of the track record, it seems to me, is that large, persistent unexplained deficits warrant careful policymaker scrutiny.

Large *surpluses* in current accounts may also be symptomatic of financial and economic distortions. China's high surplus, for example, is certainly linked to low levels of social insurance, to financial repression that keeps the return to savings low, and to a corporate governance framework that encourages excessive saving by firms.

B. *Macroeconomic Implications*

Being highly correlated with net exports, the current account also plays a role as a key component of a country's aggregate demand. Since current accounts throughout the world necessarily sum to zero in theory—which is to say that world saving must equal world investment absent

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[19] The United States' ability to borrow large amounts abroad on favorable terms, however, facilitated the domestic asset boom. Otherwise, the dollar's foreign exchange value would have been lower and domestic interest rates higher.

measurement problems—shifts in patterns of current accounts are also likely to be correlated with shifts in global real interest rates, especially at the longer maturities where monetary policies presumably have less influence. Such shifts also affect terms of trade and real exchange rates, with impacts on resource allocation throughout the world. Bernanke's (2005) celebrated (if sometimes disputed) account of the "global saving glut" is a prime example of this implication of global imbalances. According to that view, bigger surpluses by emerging market countries such as China pushed world real interest rates down, with repercussions in advanced-country asset and housing markets.

One obvious danger of running a large current-account deficit is that in the aggregate, an excess of spending over income necessarily must be sustained by sales of foreign assets (privately owned or official reserves) or finance provided by foreigners. If foreigners suddenly become unwilling to provide that finance, and if only limited liquidity can be generated through domestic residents' sales of their foreign assets, then the current account necessarily must adjust abruptly through a collapse in domestic demand. This is the "sudden stop" scenario discussed by Calvo and Reinhart (2000). It can imply sharp and painful adjustments in relative prices and resource allocation, along with negative balance-sheet effects when foreign-currency liabilities are widespread.

Current-account surplus countries have a much milder dependence on foreign financial inflows. The individuals in surplus countries who are borrowing abroad could in principle find domestic credit sources if foreign supply were cut off, all at an unchanged aggregate current-account surplus. Thus a strike by foreign lenders, other things equal, does not *necessarily* force a current-account surplus country to increase its surplus.

Nonetheless, an abrupt collapse of gross foreign inflows is likely in practice to have significant economic effects even on a surplus country, including an increase in the trade balance. A sharp global portfolio shift away from a surplus country's assets requires adjustments in rates of return and the exchange rate. Domestic rates of return need to rise to divert domestic savings to domestic borrowers, while real currency depreciation reduces imports and spur exports. But the size of the resulting trade bal-
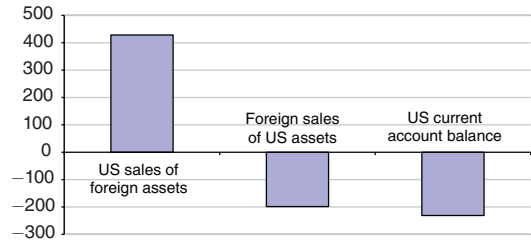

FIGURE 8. US INTERNATIONAL TRANSACTIONS IN 2008:IV AND 2009:I (*billions of US dollars*)

Source: US Department of Commerce, Bureau of Economic Analysis.

ance increase is perforce much smaller than the increase that a current-account deficit country must generate in the face of a complete sudden stop. Accordingly, the degree of macroeconomic dislocation is much smaller for a surplus country as well. And naturally, the surplus country's lower vulnerability to disappearing gross foreign inflows also makes it much less likely that those inflows do disappear.

For a deficit economy, the nature of aggregate gross asset and liability positions, and the distribution of different assets and liabilities among individuals, plainly affects the way a sudden stop scenario plays out. Initial portfolio positions can make the outcome less bad (if agents hold liquid foreign assets, or assets useful as collateral for foreign loans), or much worse (if agents have extensive short-term foreign liabilities).

Figure 8 illustrates the example of the United States over the two quarters of intensive global deleveraging following the Lehman Brothers collapse in September 2008. (Figure 2 shows annual data.) Gross capital inflows, which in previous years had been sufficient to more than cover even a 2006 net current-account deficit of 6 percent of GDP, went into reverse, as foreigners liquidated $198.5 billion in US assets.[20] In addition, the United States financed a current-account shortfall of $231.1 billion (down sharply from the current-account deficit of $371.4 billion over the previous two quarters).

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[20] These data, from the Bureau of Economic Analysis website (accessed December 2011), are not seasonally adjusted. Fortunately for my example, large errors and omissions in each of the two quarters I discuss cancel when flows over the two quarters are summed.

Where did the total of nearly $430 billion in external finance come from? It came from US sales of $428.4 billion of assets held abroad—a volume so big that the dollar actually appreciated sharply through March 2009. Had these resources not been available (as a result of past gross financial outflows from the United States), foreigners would have been able to liquidate fewer of their US assets, the US current-account deficit would have been compressed further, and the dollar would have slumped in currency markets. Of course, financial intermediation between US resident individuals was disrupted during this period, making it more difficult for those with foreign liabilities but not assets to finance repayments. Hence the need for extensive intervention by central banks.[21]

For a country with few liquid foreign assets, but substantial short-term liabilities that foreigners refuse to roll over, a sudden stop in financial inflows opens up an external financing gap even larger than the current-account deficit, leading to a bigger and much more traumatic adjustment. Emerging markets in the past were more likely to be in this category, though they have been accumulating higher volumes of gross private foreign assets these days, alongside copious international reserves. A current-account deficit creates a basic vulnerability to a sudden stop in financial inflows, but as noted above, the nature of gross foreign asset and liability positions will be a critical determinant of the *denouement*. Gross currency, liquidity, and maturity exposures determine which actors will encounter financial stress, in turn stressing their creditors, their creditors' creditors, and so on.[22]

Some argue that euro zone peripheral countries have been suffering a sudden stop of gross financial inflows during the currency union's debt crisis, with finance for the current account and financial outflows coming from IMF and EU lending and the ECB.[23] The euro zone peripherals have, however, also been able to draw down stocks of foreign assets. Furthermore, within the euro zone, a further source of finance (at least from euro zone partners) is *cash*, net cross-border flows of which have given rise to the much-discussed net national positions within the TARGET payment system.[24]

A theoretical argument that current-account deficits (as well as the surpluses of creditor countries) may generally be too large comes from considering the externalities that can arise when financial markets are incomplete (Korinek 2011). A sudden stop can lead to a currency depreciation that, in turn, raises the real value of foreign liabilities and thereby tightens financial constraints. Because individuals do not internalize this pecuniary externality, borrowers borrow too much and lenders lend too much, so there is a (global) welfare argument for reducing the size of external imbalances.

Creditors can impose a sharp reduction in the current-account deficit, but the reduction also can arise from a fall in domestic demand, for example, due to household deleveraging or a collapse in investment. In either case, the resulting fall in aggregate demand is likely to have exchange-rate implications, of the type modeled by Obstfeld and Rogoff (2007). An unusually (and possibly unsustainably) large current-account deficit therefore will signal an empirical range of possible exchange-rate effects. However, a sustainable level of the current account, like that of the public deficit, is difficult to define in any objective way. Clearly some of the past euro zone current-account imbalances have raised repayment issues, with Greece, for example, borrowing to fund high levels of government consumption, and Spain borrowing to finance investment in largely nontraded goods such as housing, which cannot be used to pay off

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[21] It is useful to keep in mind that all of the flows being discussed are endogenous. Some foreign liquidations of US assets were prompted by US repayment demands on foreigners, as well as vice versa.

[22] Empirical studies suggest that the output and exchange-rate effects of current-account reversals differ across countries and need not always bring a dramatic slowdown. See, for example, Milesi-Ferretti and Razin (2000), Edwards (2002), and Freund and Warnock (2007). For a theoretical model of a sudden stop leading to economic collapse, see Mendoza (2010). Milesi-Ferretti and Lane (2011) argue that countries with initial current-account deficits adjusted more sharply in the 2007–2009 crisis, and in particular, that a key correlate of the extent of demand and output compression was the degree to which the deficit exceeded an empirical benchmark based on economic and demographic fundamentals. Recognizing the growing divergences between gross and net financial flows even for emerging economies, Forbes

and Warnock (2011) develop a 50-country database and analyze extreme financial capital movements over the 1980–2009 period.

[23] Wolf (2011).

[24] See, for example, Buiter, Rahbari, and Michels (2011).

external creditors through net exports as demanded by constraint (5).[25]

Within a monetary union, an internal constellation of large current account deficits driven by domestic spending can be especially problematic. Real currency appreciation emerges as a deficit opens up, depressing the domestic real interest rate and encouraging the deficit to grow even further. Eventually, however, the currency will have to depreciate in real terms—beyond even its initial, preshock level—to generate net exports sufficient to service a much higher net external debt (see Fagan and Gaspar 2007 for a formal model). But how is the needed real depreciation to take place when the nominal exchange rate cannot change? The process requires painful internal devaluation unless there is substantial domestic real growth or substantial foreign inflation. In other words, a national current account deficit can look like a major "asymmetric shock." This is precisely the type of development that makes currency union a bad idea. The experience of the euro zone peripheral countries after 1999 illustrates the danger.

Any problems associated with a given country's external imbalance may primarily hurt its home economy. But negative consequences from changes in one country's current account can also spill over into the global system. Blanchard and Milesi-Ferretti (2011) emphasize the distinction between national and systemic repercussions. In the latter category, a crisis in one deficit country, sparked by a sudden stop in its own financial inflows, can spread through contagion effects (think of Mexico in 1994, Thailand in 1997, or the euro zone now). Another example is related to the inherent asymmetry between the pressures on surplus countries to move toward external balance and the greater pressures facing deficit countries. If countries collectively target a pattern of global imbalances that sums to a positive number rather than zero, world output and employment will suffer, a possibility that has inspired recent calls for global policy coordination. Proponents of the "global saving glut" account of the 2007–2009 crisis hold that bigger surpluses by China and other emerging economies had adverse effects on richer countries' current accounts and financial markets.

Debate over "currency wars" between recession-mired rich countries and faster-growing emerging markets highlight another possibility. As rich countries such as the United States seek export-led growth through loose monetary policies and currency depreciation, emerging markets face a trade-off between losing export competitiveness if they allow their currencies to appreciate, and higher domestic inflation if they intervene to resist appreciation. For many, the trade-off is harsher because of China's reliance on capital controls to manage its own currency in the interest of export promotion. Over the longer term, these international conflicts threaten to spread protectionism, which is yet another reason to be wary of large and persistent global imbalances.

Sometimes it is argued that the governments of countries with current-account surpluses—countries that do not depend on foreign economies for finance—are in a better position to sustain large public deficits and debts. Japan is held up as an example. If such a country adopted financial repression as in the historical episodes analyzed by Reinhart and Sbrancia (2011), perhaps retracting capital exports so as to mobilize national savings, then theory tells us that its real domestic interest rate would *fall* toward its autarky level. This possibility is not open to deficit countries. Even if the Lawson Doctrine is false, perhaps its converse has some plausibility: government deficits and debt are less of a concern if the current account is in surplus.

C. *The Current Account and the Dynamics of the NIIP*

Market assessments of solvency are to some degree subjective and an entity with liquid liabilities may be pushed into bankruptcy even if it would be solvent in other states of the world. Nonetheless, the NIIP is a key ingredient in the national solvency constraint, and a deteriorating NIIP could well be the trigger for a sudden stop. To the extent that the NIIP's evolution is decoupled from the current-account balance, however, the case for considering the latter to be a key policy variable is weakened. As observed above, recent data suggest a very loose relationship for the United States (recall Figure 7).

Is it plausible that such decoupling occurs more generally over the long term? As a lens on the issue I rewrite equation (1). Let lower-case versions of the symbols in equation (1) denote

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[25] See the analyses of Giavazzi and Spaventa (2010) and Lane and Pels (2011).

ratios to nominal GDP, let g be the growth rate of nominal GDP, and let the superscripts p and u refer, respectively, to predictable and unpredictable changes (based on lagged information). Then the evolution of the NIIP, expressed as a ratio to nominal GDP, is:

$$(6) \qquad \dot{a} - \dot{l} = ca - g \times (a - l)$$
$$+ kg^{A,p} - kg^{L,p}$$
$$+ kg^{A,u} - kg^{L,u}.$$

On the other hand, the ratio of cumulated current accounts to nominal GDP, c, follows:

$$(7) \qquad \dot{c} = ca - g \times c.$$

Comparing equations (6) and (7), we see that unpredictable capital gains cannot systematically drive the NIIP/GDP ratio and the cumulated current account c apart. Only predictable capital gains can do so. But the likelihood that these are substantial is slim.

Devereux and Sutherland (2010) argue that it is difficult to generate large expected capital gains within a reasonably calibrated model based on individual portfolio choice. In the case of the United States, Gourinchas and Rey (2007b) show empirically that a higher net export deficit predicts a relative return differential in favor of US foreign assets over liabilities, operating in part through capital gains due to exchange-rate and other asset-price movements. These changes appear to play a significant long-term role in mitigating the effects of net export deficits on the US NIIP. For other industrial countries, however, valuation changes appear much less important in the long-term external adjustment to trade imbalances, and for emerging markets these effects play no role at all (International Monetary Fund 2005, chapter 3).[26]

A very important caveat about the US case is that a sizable part of the discrepancy in Figure 7 between the NIIP and the cumulated current account probably results from inaccuracies in the data on financial flows across US borders.[27] NIIP data for the United States are periodically updated based on surveys, yet the financial flow (and current-account) data are revised only slightly in the light of new information. For the United States, the trend of NIIP revisions has been upward, suggesting that existing data on financial flows might overstate net financial inflows into the United States. Lane and Milesi-Ferretti (2009) contend that over the past 25 years, existing BEA data may overstate US net external borrowing by up to 0.6 percent of GDP per year.

All countries face challenges, of course, in accurately measuring international transactions and positions. But the problems have generally received less intensive scrutiny outside the United States. It is nonetheless striking that in the admittedly imperfect data that are available to us, many major countries apart from the United States display a visible long-run coherence between NIIP ratios to GDP and ratios of cumulated current accounts to GDP. Figure 9 offers some examples. The biggest and most protracted divergence occurs in the case of safe-haven Switzerland (panel C), where the cumulated current account falls after 1970 and remains below the NIIP (all relative to GDP) until the early 2000s.

If national risks are being shared efficiently, the valuation gains in Figure 9 may be arriving just when countries need them the most. Whether that is so is an open question for future research (as is the question how, precisely, "efficient risk sharing" would look in reality). It would not necessarily follow, however, that countries persistently running down their external positions through current-account deficits are systematically

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[26] Again, this is not to deny that valuation effects may play a role in international risk sharing. The question whether the valuation changes in equation (6) are systematic or purely random is related to, but distinct from, the question whether the United States systematically earns more on its foreign assets than it pays on its foreign liabilities. The latter question concerns *overall* asset returns (including interest and dividend payments, which are included in the current account), not just the capital gains components of returns. (Overall returns are also the focus in the Gourinchas and Rey 2007b study.) Because US foreign assets are more

heavily allocated to equity than are US foreign liabilities, as noted earlier, an equity risk premium should raise the relative return on the portfolio of US foreign assets. However, it has also been conjectured that even *within* asset classes the United States pays out less on foreign liabilities than it earns on foreign assets. Curcuru, Thomas, and Warnock (2012) survey the evidence and conclude that there is a significant discrepancy in this direction only for direct investments. They attribute it in part to tax considerations.

[27] See Curcuru, Dvorak, Warnock (2008); Lane and Milesi-Ferretti (2009); and Gohrband and Howell (forthcoming).
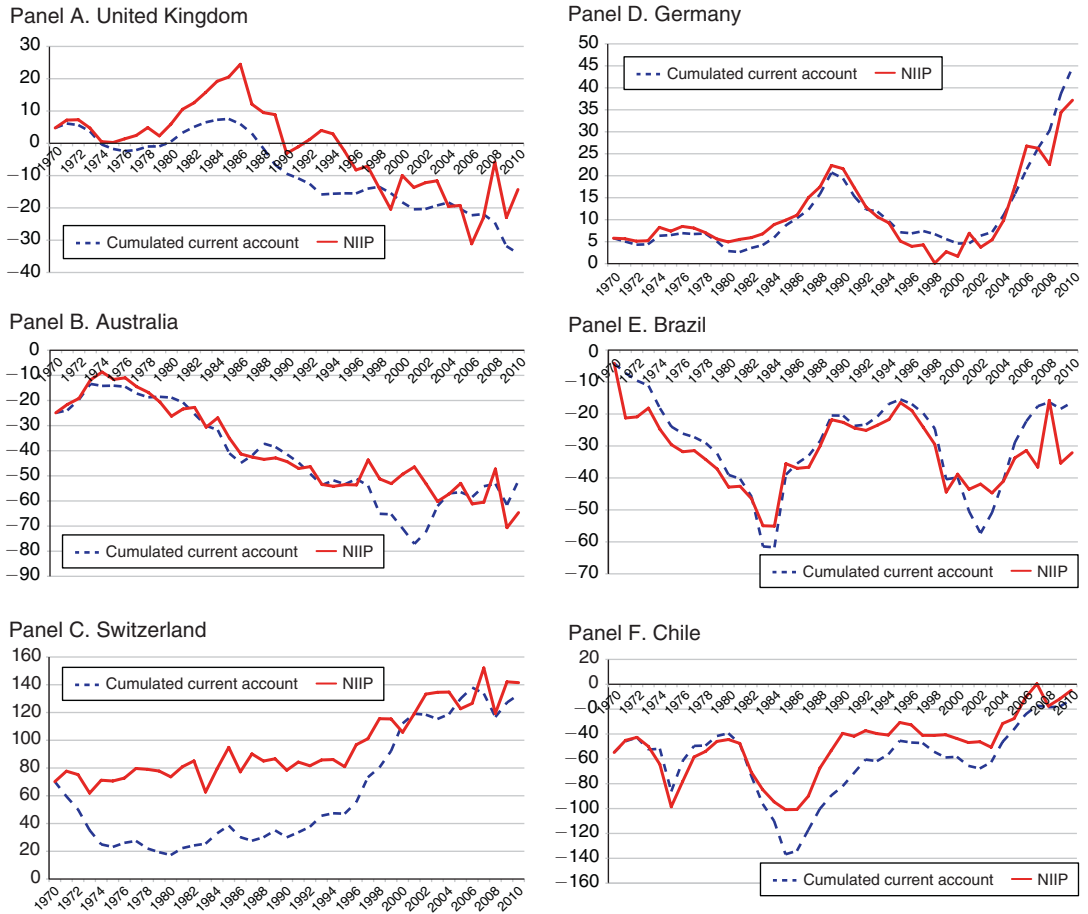
FIGURE 9. CUMULATED CURRENT ACCOUNT AND NET INTERNATIONAL INVESTMENT POSITION, SELECTED COUNTRIES
(*percent of GDP*)

Source: Updated Lane and Milesi-Ferretti (2007) data, provided by the authors.

rewarded with capital gains at foreigners' expense. My take-home from Figure 9 is that net windfall gains on gross foreign assets and liabilities cannot be relied upon to offset the external wealth effects of the current account.

IV. Conclusion

To my mind, a lesson of recent crises is that globalized financial markets present potential stability risks that we ignore at our peril. Contrary to a complete markets or "consenting adults" view of the world, current-account imbalances, while very possibly warranted by funda-

mentals and welcome, can also signal elevated macroeconomic and financial stresses, as was arguably the case in the mid-2000s. Historically large and persistent global imbalances deserve careful attention from policymakers, with no presumption of innocence. They need not be the benign result of advances in market efficiency, as is sometimes claimed. Valuation changes in NIIPs, while possibly important in risk allocation, cannot be relied upon systematically to offset the changes in national wealth implied by the current account.

The same factors that dictate careful attention to global imbalances also imply that data on

gross international financial flows and positions are central to any assessment of financial stability risks. The balance sheet mismatches of leveraged entities provide the most direct indicators of potential instability, much more so than global imbalances, though the imbalances may well be a symptom that deeper financial threats are gathering. Thus, Germany itself experienced neither a current-account deficit nor a housing boom in the 2000s, yet flows from German banks to economies that did display those symptoms led to problems later on. Unfortunately, the ways in which gross financial positions propagated the recent global crisis across borders became obvious only after the fact.

Recent proposals for international financial and monetary reform seek to limit the global proliferation of hazardous gross financial positions and to contain the resulting damage when accidents nonetheless occur. A minimally effective financial "architecture" would include further global cooperation in official liquidity facilities, in financial regulation, in resolution (of both insolvent banks and sovereign debtors), in the informational infrastructure for decision making, and in the fiscal resources needed to back up these initiatives. Together, such changes would imply a higher level of global economic government than currently exists. The political obstacles are daunting. But in light of the recent financial turmoil, one must ask how far we can safely push globalized markets beyond the perimeter of globalized governance.

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